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ABSTRACT

Described is a structured, team-teaching, developmental approach for use with multiply handicapped children between the ages of 3 and 7. The program is explained to be child-centered, to involve individualized work and small group lessons, and to use the unit approach. Task analysis and developmental sequencing of skills are performed for each of the four curricular areas: gross motor sensory integration (stimulation of sensory input, inhibition of involuntary reflexes, establishment of equilibrium reactions, development of laterality skills, position in space, and motor planning); visual perception (visual reception, visual closure, visual memory, and visual motor integration); auditory development (auditory reception, auditory closure, auditory memory, auditory association, and listening skills); and language development (labeling, connected speech, classification, use of the negative, motor expression, response to questions, language concepts, grammatic and syntactic forms, and temporal sequencing). Assessment is reported to involve a checksheet format which includes an outline overview of each developmental area's goals, specific behavioral objectives for each lesson, a listing of materials and type of presentation to be used in the lesson, and an area to record each child's response to individual lesson tasks. (SBH)

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A Sensory-Based Program Model for Pre-school Handicapped Children

Mary M. Iannicelli, French B. McConnaughey

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INTRODUCTION

The field of education for young handicapped children is a vital, expanding one, open to much interpretation and dynamic discussion. Current legislative mandates are, in fact, demanding that quality education be available for every child regardless of their handicaps. As educators, our goal is to devise an educational plan which recognizes the individual needs of each child and provides for precision teaching to meet those needs. A quality educational plan must be founded in learning theory, follow a normative developmental sequence, include careful task analysis, and be supported by continuous assessment.

The program we shall outline supports this thesis and has been used effectively with multiply-handicapped children between the ages of three and seven. Their problems include cognitive, emotional, perceptual, physical, and communicative disorders. A structured, team-teaching, developmental approach is used reflecting our experience with and analysis of actual projects. It is a model adapting a program used successfully with older children at Christ Church Child Center, in Bethesda, Maryland. More sophisticated skills for older children can be found in a book developed by CCCC's language clinicians, Target on Language[1]. The

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1/ Target on Language - Auditory and visual subskill definitions incorporated in this paper reflect those used in Target on Language, Novakovich, Harriet; Smith, Judith; Teegarden, Carolyn. Target on Language, Christ Church Child Center, 8011 Old Georgetown Road, Bethesda, Maryland 20014, Revised Ed. April 1977.

communication process outlined in the Illinois Test of Psycholinguistic Abilities[2] was adapted for use in this book and is reflected in many of our goals. We shall focus primarily on the curriculum areas of visual, gross motor-sensory integration, auditory, and language development which comprise the core for the entire program. These sensory-based curriculum areas can be adapted for use in a variety of educational settings, but we believe are especially appropriate for preschool handicapped children. Most important, the techniques we use are practical and manageable. They work.

PHILOSOPHY

A well-ordered program is child-centered. It follows the child's method of learning, progressing one skill at a time in a meaningful hierarchy. Understanding the learning process and breaking it down into its component parts is a tedious but necessary process, subject to constant revision.

The program begins with an analysis of the process of information gathering and concept formation shared by all children. A child learns through a process of input - integration - output. At the input stage a child processes information received through his senses, primarily through the auditory, visual, and kinesthetic-tactile channels. A child then integrates this sensory input into his present cognitive system using inner language systems to link the information with previously understood concepts. The child then communicates his understanding of the

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2/ Illinois Test of Psycholinguistic Abilities, Kirk, Samual A., 1961.

information through some form of output (e.g.,expressive language, motor responses). A break at any step of the process can significantly affect learning.

Our program is therefore designed to analyze and strengthen functioning at each step of the child's learning process, remediating deficits when possible or providing a means of compensation when necessary. In order to accomplish this goal, each child receives specific instruction in visual perception (including visual-motor integration), auditory perception, gross motor-sensory integration, and language.

PROGRAMMING

Actually fitting the four developmental areas of visual perception, gross motor-sensory integration, auditory perception, and language development into the daily preschool program can be accomplished in several ways. Individualized work and small group lessons comprise the bulk of our formal teaching of specific skills.

Individualized work is prepared daily and completed in a one-to-one teaching situation. It is designed using techniques that we have found to be generally appropriate including:

1. a multisensory approach,
2. materials which are concrete and manipulative,
3. equipment and materials which are enjoyable and highly motivating,
4. activities which follow a normative developmental sequence from gross motor to fine muscle coordination and from the concrete to the abstract,

5. activities which allow each child to progress at his own rate, while constantly increasing his abilities, one small integer at a time.

Small group sessions are carried out daily in the four developmental areas. Formation and programming for these groups is based upon the following guidelines:

1. homogeneous grouping taking into account the children's performance on an educational evaluation administered at the beginning of the school year as well as previous school reports, standardized test results, and group dynamics;
2. group goals based upon the needs of individual children;
3. a teaching style attuned to individual goals which focuses on the need to reward a desired response each time it occurs;
4. lessons which are brief, varied, and fast-moving, to compensate for the children's short attention spans;
5. multi-media materials which provide the necessary repetition while maintaining attention;
6. input provided through short teacher presentations, alternated with activities designed to let the child practice the new skill;
7. a teaching style which minimizes anxiety and capitalizes on the spontaneity of the children and the motivating facets of the materials.

Many diverse approaches to learning can be used within the daily program to augment the skills presented in the formal teaching sessions.

Among the activities that we often use to provide supplementary exposure to skill development are: learning centers, manipulative materials (such as Montessori equipment), take-home activities, art projects, music sessions, and field trips.

UNIT APPROACH

Programming is coordinated through the use of a unit topic. Each teacher in each subject area uses material related to the same topic (such as self, food, transportation). This approach ensures that information input is not limited to one modality. Reinforcement and repetition takes place leading to over-learning. The children seem to assimilate information more readily as a direct result of this teaching approach and less time needs to be devoted to the actual teaching of labels.

Unit topics are chosen to reflect the common environmental experiences and informational needs of all the children. Units progress from the most basic experiential category - one's self - outward to the more abstract categories of neighborhood and community.

A supplementary benefit of the unit approach is that it necessitates cooperative planning by the team teachers. The correlation of teaching objectives results in a well balanced and inclusive program.

ANALYSIS OF THE TEACHING TECHNIQUES OF THE FOUR CURRICULAR AREAS

The factor which makes our program work is the task analysis and developmental sequencing of skills involved in each curricular area. When

planning lessons within the areas of visual perception, gross motor-sensory integration, language development, and auditory perception, we first separate the skills involved into specific observable behavioral tasks and then place these skills into a developmental hierarchy. Such specific task analysis and developmental sequencing is crucial because each construct presented broadens an individual's knowledge and provides a cornerstone for new information. Since outlining this hierarchy would necessitate presenting an entire curriculum guide, we can only give you limited examples to outline the program. Using the familiar unit, transportation, we will endeavor to present a representative sampling of our four curricular areas.

I. GROSS MOTOR SENSORY INTEGRATION

Like Piaget's sensori-motor stage, the development of sensory integration forms the basis for all other skill development. The program we have adapted is not designed to simply teach physical agility. The degree of intact sensory integration will determine a child's ability to process sensory input - regardless of the task.

Our program is based on the sensory-integrative therapy developed by Jean Ayres.[3] Each activity is designed to promote more intact sensory

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3/ Ayres, A. Jean, Sensory Integration and Learning Disorders, (Los Angeles; Western Psychological Services, 1973).

integration. The program encompasses activities from reflex level skills to sophisticated motor planning skills. Ayres outlines her program on the basis of syndromes or dysfunctions exhibited by children. For the sake of brevity and immediate application to the classroom, we shall outline skill areas according to observable motor goals and list some of the activities which might be used in order to attain the goal. We have deliniated six skill areas. In practice the skills are highly integrated and each activity will serve a multiple goal.

The method in which activities are presented is as important as the sensory motor goal toward which you are working. Enlisting the enthusiasm and confidence of the child will result in a higher level of functioning and a willingness to repeat a given activity. All efforts should be made to avoid purely repetitional and patterned exercises which omit the affective element of the child's development.

1. Stimulation of Sensory Input using vestibular, tactile, and kinesthetic channels should be the basis for any sensory-motor program. Intact vestibular and haptic (tactile-kinesthetic) systems form the substrata upon which more sophisticated motor skills are built. Because of significant deficits in these areas, our children need directed input which will specifically stimulate the vestibular, tactile, and kinesthetic systems.

The vestibular system, which is one of the most primitive of the sensory systems, is activated through spinning, rolling, and rocking movements. Young children often self-stimulate this system by rocking their

bodies or twirling around. Within our program, children might be rolled in a large tunnel, spun around in a snow disc, or rocked back and forth over a large inflated ball. Ayres hypothesizes that such activities will stimulate neural activity at a higher cortical level and result in an overall enhancement of sensory integration.[2]

Tactile activities are begun at the input level. By rolling a child up in a blanket or rubbing powder over his body, overall awareness of the body is begun throgh stimulation of the body parts. When a child indicates that he can perceive tough-pressure anywhere on his body, our goal is extended to tactile discrimination of texture, form, shape, and size. Small toy vehicles might be placed in a "feely box" or in a box filled with styrofoam packing pieces. The child would be asked to identify the objects using only his sense of touch and in the later activity to disregard the stimulation of the packing medium. Tactile discrimination can of course be extended to include identification of shapes, letters, and numerals.

The ability to perceive weight movements and positioning of body parts is a kinesthetic skill. The proprioceptors which are found internally in muscles, joints, and tendons are the receptors for this skill. Activities are designed to help the child strengthen muscles, joints, and tendons as well as to develop their simultaneous usage as a child extends or flexes a limb, rotates his body or lifts his torso or head. A large wooden vehicle requiring the use of the child's entire body weight can be used for pushing and pulling. In order to focus the

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2/ Ibid.

activity on a particular body area, children might be asked to push a wheelbarrow or hold an airplane over their heads while running.

Tactile and kinesthetic skills work together in order for a child to develop body image awareness. Activities in this skill area make the child aware of his body parts, their relationship to each other, and how they must move in order to carry out any motor activity.

2. Inhibition of involuntary reflexes is a sensory goal usually achieved by normally developing children by six months of age. Many of our children at ages 4, 5, and 6 continue to exhibit these reflexes (tonic neck reflex, tonic labyrinthine reflex[4]). We are able to help them learn the appropriate responses by carrying out motor activities which require body positions in opposition to the primary reflexes.

a. To help inhibit the tonic neck reflex the children could pretend to be a train; as their arms are extended in an alternating fashion, their heads are turned toward the arm which is not extended.

b. In order to inhibit the tonic labyrinthine reflex, the children might be asked to be bulldozers. As they slide down an incline on a scooter board, they would extend their arms to knock over cardboard building blocks. (Having arms extended while laying on the stomach is in opposition to the closed position of the tonic labyrinthine reflex.)

4/ These reflexes are thoroughly described in Ayre's book, Sensory Integration and Learning Disabilities (footnote 1).

3. Establishment of equilibrium reactions are necessary so that a child will not have to consciously direct his attention toward maintaining balance. Balance is an anti-gravity response. A child must first be allowed to feel the force of gravity. Lying on a large inflatable ball, the child is able to experiment with various body positions and perceive how they relate to gravity. Experimentation and skill development in the prone position are extended to a crawling stance, then sitting, and finally to an upright position. Although the familiar walking board is a worthwhile piece of equipment for developing balance, it should be used in conjunction with a variety of other equipment:

a. rocking horses and rocking chairs,
b. large barrels which may be straddled,
c. boards or masking tape or block "trails" on the floor,
d. balance boards constructed of a foot square board mounted on an inch square block,
e. stilts made of cans and strings,
f. trampolines,
g. T-stools, which are one-legged stools,

4. Development of laterality skills is based upon a child's awareness of his body parts. In the normal developmental sequence, bilateral, unilateral, alternating, and integrated usage of body limbs are achieved. Activities are presented following this sequence.

Bilateral activities require the use of the two sides of the body (both arms, both legs) together. Activities such as throwing a ball overhead with both hands or hopping on a pogo stick illustrate bilateral coordination skills. When working with a transportation unit the activity might be to pretend to row a boat.

Unilateral activities would require the use of an arm and a leg on one side of the body in a joint fashion. One sided "angels in the snow" is an activity which could be used.

Alternating skills require that the child use both sides of his body in a contrasting or reciprocal fashion. While lying prone on a scooter board the children can pretend they are vehicles going down a road using alternating hand and feet movements. A daily routine use of tricycles, stairclimbing or ladder climbing is beneficial. One can see that midline problems would result in an inability to complete alternating activities as well as the final integrative skill level.

Integration of the body sides is the final step in laterality development. Integration requires the use of body limbs in separate but related activities (e.g. holding the paper with one hand while cutting with the other.)

5. Position in space. Children must know the distance and direction of objects in relation to themselves. They must first manipulate and control the distances through building with large blocks or packing boxes.

Perception of the distance and direction without physical contact with the object is developed through repeated activities allowing the child to move his body through space. A child might be asked to move around, under, or over a table. For some children it takes many times before they can judge how far to bend down so that they will not bump their heads on that table. With practice, however, their body movements can become more fluid and the spaces through which the child must move can be made smaller. Throughout all these activities the teacher would be feeding in the language component to help the child relate prepositions (in, on, beside, and under) with the placement of his body.

6. The last area is motor planning. A child must be able to determine the type and sequence of movements he needs in order to carry out a purposeful act. Development of these skills must be carried out concurrently with all other skill areas of the program. Verbalization and modeling by the teacher will help a child know what he is going to do even at the most elementary level. As soon as a child is able to use language he should be expected to verbalize his plan of action. Learning simple games and completing mazes are helpful for motor planning as are all self-help skills which require a step-by-step sequence of activities.

II. VISUAL PERCEPTION

Visual perception is the second major area of our curriculum. Intact visual perception enables a child (1) to simultaneously register position,

distance, color, and form; (2) to remember stimuli previously seen; (3) to formulate relationships and comparisons between visual stimuli; (4) to recognize items which are incomplete or distorted; and (5) to produce written communications. The technical names for these skills are: (1) visual reception, (2) visual memory, (3) visual association, (4) visual closure, and (5) visual-motor skills. Our curriculum provides for specific instruction in each area.

Visual reception includes those skills which enable a child to interpret and grasp the meaning of things he sees. Initially a teacher must establish skills for localization of sight which enables a child to fixate on an object at rest or to visually track a moving object. Using a flashing light, the teacher would ask the child to point to the light or to follow a roving beam of light. Once localization is established, interpretation of visual input is begun.

The child learns to match, recognize ("Give me the ____.") and then to label a given item, beginning with concrete objects. Pictures are introduced in conjunction with objects as the child is taught object to picture matching (e.g., matching a toy car to the picture of the car). Pictures alone are used only after a child is able to progress beyond the concrete level of visual input.

The successful use of pictures for development of visual reception involves careful task analysis. The size, color, abstractness, and complexity of a picture will have substantial impact on a child's ability

to gather meaning from it. Initially pictures should be large, as realistic as possible, and include only one item on a white background (e.g., Peabody Language Kit pictures[5]). As the child's skill level increases, size is reduced, complexity may be increased through composite pictures or figure-ground masking. Abstractness is increased through use of line drawings, which only approximate realistic pictures or through the use of symbols.

The next level of reception skills focuses on developing more precise discrimination ability in order to recognize similarities and differences. The visual attributes of size, color, shape, and position must each be presented. (When working on a transportation unit a child might be taught to sort toy cars by their color or paste wheels on vehicles according to their size.) The ultimate goal is for the child to spontaneously make visual observations reflecting his recognition of all the attributes.

The most sophisticated of the reception skills requires the child to see "sameness" between objects or pictures according to categorical groupings. Within the transportation unit a child would learn to group cars, trucks, airplanes, busses, etc., together because they are all vehicles.

5/ Dunn, Lloyd M. and Smith, James O., Peabody Language Kit, Level P and Level 1, American Guidance Service, Inc., 1968.

Once visual reception skills are established at a primary level (e.g., basic labeling of single objects or pictures and recognition of some of the attirbutes), we are able to introduce visual associations. These skills enable a child to coordinate and compare what is seen in a meaningful way so that he is able to conceive new relationships. At the preschool level, associations are generally concretely based (e.g., attributes, function, or part to whole relationships). Using objects and pictures the teacher exposes the child to a given association (e.g., car-road, boat-water). This "forced" association is presented numerous times until the child is able to make the connection spontaneously. Part to whole associations (e.g., wing to plane, or steering wheel to car) can be most easily seen through manipulation of objects (e.g., the wheels come off of a car, or the sail from a boat) or through the use of puzzles. Acetate overlays can be a more sophisticated way to present part to whole associations in pictorial form.

At a more abstract level the concepts of time and space, opposites and cause and effect can be presented in pictorial form to formulate associations. Finally the child would make associations through visual analogies (e.g., road is to car as water is to ___).

Visual closure is the ability to identify a common object from an incomplete or unorganized presentation. This skill cannot be taught until visual reception (discrimination) and visual association (part to whole) skills are established. Children might be asked to identify a toy car when it is partially hidden under a napkin. Closure

templates[6] which are cover sheets with random holes and shapes cut into it, may be used to make a picture and create a fragmented stimuli. Skills in visual closure are closely related to a child's ability to read and therefore must constitute an important part of the visual training.

Visual memory includes both recall and sequential memory. Recall, which is less complex, is simply remembering an object or picture which has been removed from sight. Sequential memory enables a child to recall a sequence of object, pictures, or letters in the order they were presented.

When beginning memory work, the teacher should be very careful to use objects and pictures which the child can recognize and label. Failure to do this will unnecessarily confuse the child and result in frustration. Auditory and visual clues will be important at first in order to give the child extra help in recognizing stimuli (e.g., auditory-place the object in a paper bag so that the child can hear it rattle when the bag is shaken; visual-cover the object with a napkin or cloth so that the form can still be discerned). The task is made more difficult when the number of objects is increased and when pictures are substituted for objects.

6/ Commercially made closure templates can be found in the Peabody Language Kit, Ibid.

In order to master sequential memory tasks a child must have an understanding of order. The teacher would initially ask the child to duplicate a series of objects or pictures using matching skills (e.g., a parade of vehicles could be duplicated by the child or a line of traffic waiting at a stop sign could be reproduced). Once successful, the memory component would be added. Visual sequential memory is obviously associated with spelling, sight work vocabulary, and reading skills.

VISUAL MOTOR

When a motor response is required for a visual task you are asking the child to integrate skills, perceiving with the eyes while doing with the hands. Although some simple eye-hand coordination skills are presented in the team setting, (e.g., sorting, visual tracking with a flashlight, sequence duplication, etc.) by and large we have discovered that our children need a one to one setting for optimum development of visual motor tasks. We provide this setting during the individualized time first thing in the morning and in a writing corner conducted by a para-professional under the direction of the visual perception team teacher. The gross motor-sensory integration and visual team groups lay the basis for visual motor skills with the development of small muscle strength, eye-hand coordination skills, visual tracking, and localization of sight skills. Parquetry and inch cube design formation, functional use of scissors, adaptive use of paper and pencil for shape, letter, and number production are some of the skills focused on. Pre-reading skills of

sequencing and directionality are strengthened through use of bead stringing and pegboard patterns. A variety of teacher-made and commercially obtained materials are used. When possible, the unit theme is extended and reinforced. For example, a child might practice drawing shapes by tracing sails on boats or windows on cars.

III. AUDITORY DEVELOPMENT

Handicapped children typically exhibit marked differences in abilities among the different sensory areas. One child may be very receptive to visual stimuli, but almost oblivious to auditory input. For a second child the picture may be just the reverse - he needs everything presented autidorally. Our purpose is to train each child to use his abilities in each area to their fullest extent.

We have delineated five target areas within the field of auditory training. It is important to realize that these differentiations are somewhat arbitrary since most activities require the integration of skills. However, when planning for skill development it is helpful to consider the areas separately.

A. AUDITORY RECEPTION

This is the ability to gather meaning via the auditory channel through differentiation and identification of sounds heard. We use this skill continually in everyday life. Everytime we hear a sound and then attach meaning to it we are practicing auditory reception and discrimination.

1. The first skills taught involve simply making a child aware of sound. Ex: Use a bicycle bell or horn to make a sound. We want the child to recognize that things make noises.
2. Once a child indicates awareness of auditory impulses, localization skills are taught. Ex: Hide a radio in the room in order that the child may find it.
3. Once a child can localize sounds, he needs to differentiate one sound from another.

A. Auditory discrimination is first taught through the use of environmental sounds. A child needs to learn to attach meaning to sounds. Ex: Let the children go outside with you and honk your car horn. They will gradually learn to match a sound with its source. (These examples show that it is often necessary to use combined modalities to get the child's attention and to assist his understanding. As a child's auditory abilities improve, reliance on visual clues should decrease. For example, after a child can recognize a car horn, remove the sound from its source and play it on tape cassettes or the Language Master.)

b. Discrimination among words requires more precise listening. Ex: The teacher dictates several words "truck-train, find truck" and the child responds by touching an object or marking an answer sheet. The use of earphones for this and many other auditory tasks is a valuable tool for directing the child's attention and reducing distractibility.

4. Once a child is confident about his abilities at the preceding fundamental levels, introduce more complex skills such as sound properties.

A child can learn to discriminate between loud/soft, high/low, and far/near sounds. Ex: Record traffic noises and present the tape in a manner which will highlight sound velocity or distance.

5. Auditory figure-ground discrimination is the ability to attend to a relevant auditory stimulus and to ignore distracting background sounds. Ex: Teach the child to recognize an ambulance siren even against a background of extraneous traffic noises.

B. AUDITORY CLOSURE

This is the ability, when listening, to identify the whole with parts deleted or distorted. Adults use this skill when conversing. We often miss part of a word or sentence but can fill in the meaning from the surrounding information. Ex: Tell the children "I am going to name some vehicles, but I will do it wrong. Part of the word will be missing. See if you can guess which vehicle it is. Listen: bu__. Can you guess?" (bus) "Now I'm going to say the vehicles in a funny way. Can you guess which vehicle this is? B-oa-t. Right! It's boat!"

C. AUDITORY MEMORY

This is the ability to retain or reproduce sounds, including sounds combined into words. It is a skill crucial for learning but it is one of the biggest deficit areas for many of our children. Primarily we are interested in training short-term memory, specifically, increasing the number of items remembered. Before beginning to teach auditory memory,

be aware of the components involved in each task. Your method of presentation may affect the child's response more than his auditory memory. Ascertain that a child has prior knowledge of the information presented in the activity. Consider a child's capabilities when deciding upon the mode of response. For example, one child may not have the physical coordination to complete a motoric response, while another child may find a verbal response extraordinarily difficult. The presentation of memory skills taught progresses from,(1) immediate reproduction of a single sound chosen from several objects (e.g., car horn, bicycle bell), (2) to remembering what sound was heard on a more removed source (e.g., vehicle sounds on a tape recorder), (3) to remembering an increased number of sounds (e.g., remembering that both a policeman's whistle and a fire engine siren were heard), (4) to remembering more than one sound in correct sequence (e.g., recognition that the fire engine siren was heard first, then the policeman's whistle). Of course environmental sounds are not the only sounds practiced. Memory of words and digits is practiced as the children's abilities improve. Your voice inflection when presenting digits to remember can be of significant value. For example, if a child consistently remembers only the last digit, emphasize the first digit by saying it louder until the child no longer needs that clue.

D. AUDITORY ASSOCIATION

Once a child has a background of auditory skills and has a storehouse of preliminary information (such as word labels and basic language concepts)

he can learn to associate, or pair auditory impulses that go together. Learning associations enables a child to link information together meaningfully and begin to establish a framework upon which he can attach new information he may be exposed to in his environment. For example, a child may learn to associate a siren with an ambulance. The next time that he hears a siren on the street he will relate that sound to an ambulance and have the potential to make some appropriate judgments regarding his own behavior.

In order to teach auditory association, give repeated presentations of two words that go together (have objects available initially, e.g., train/track), then present a word that does not belong (e.g., train, table, track - find the ones that go together) and build up to purely auditory tasks such as analogies (A train goes on a track. A car goes on a ____.).

E. LISTENING SKILLS

Listening skills are the integration of auditory, visual, and motor impulses. After learning individual skills separately, the child must be able to coordinate all of these skills in a manner that will enable him to function in everday learning situations. Our goal is to teach the child to use his listening effectively in order to gain information and to make judgments.

We use story tapes with picture books and earphones as the primary means of teaching coordinated listening skills. While listening to a

story presented through earphones, the child follows the story visually in his book and makes periodic responses to questions presented by the teacher through the earphones (e.g., "Point to Mr. Small's auto. Is his car big or little?"). Before the children can perform at this relatively sophisticated level, it is necessary to break the skill down into its parts and teach each aspect individually. We begin with very simple "stories" designed to teach the mechanics of the task. Our first books are simple pictures, one item to a page. The story is just a label of that picture (e.g.,"Car. Turn the page. Boat. Turn the page."). Gradually the complexity of the stories and pictures and the complexity of the responses are increased until the children are listening to intricate stories or directions and are responding to questions on an answer sheet (e.g.,"Mark the picture that shows which vehicle Mr. Small drove.").

IV. LANGUAGE DEVELOPMENT

Language is one of the most crucial skills a child can learn. His social interactions, self-image, and learning of concepts are all dramatically influenced by his language abilities. It is sometimes necessary to teach a child the importance of language. Some children either never learn or give up trying to cope with their environment verbally. We attempt to make children aware of their power through language.

When teaching language, decide what general goals you hold for all of the children before breaking down language into specific skills. Communication is our primary goal in language development. We want to

encourage a child to verbally express his needs, ideas, and emotions. We want each child to learn that he can control his environment through his use of language. A child's cognitive development is dependent upon his inner language. We must provide a continual input of information to increase the child's store of knowledge and strengthen the framework upon which he will build new concepts. Below is listed the range of specific goals we emphasize in our program accompanied by sample activities appropriate to a transportation unit. We do not necessarily present the goals in this order. The sequence of skills varies according to the needs of the children in the group.

1. Labeling - Labeling is simply providing a verbal name for a given object. To teach a verbal label (and all skills which follow) first provide input (tell the child what he needs to know), then let the child show his grasp of the knowledge non-verbally, and finally ask the child to verbally communicate his learning. Recognize that receptive and expressive language are not the same and allow for exercises at both levels of ability.

Activity - Input: Using model vehicles, label each one clearly.
("Car...boat...truck.")

Receptive language: Let each child choose an object non-verbally.
("Show me truck.")

Expressive language: Ask each child to label the items.
("What is this?")

2. Connected speech is using words in combination (i.e., phrases, sentences).

Activity - Teaching kernal sentences is one way to help a child practice the use of connected speech. (These are short, basic, carrier phrases which can be used frequently in everyday conversation.) Let the children practice driving toy vehicles on a road. They must produce a whole sentence before they can choose a vehicle (e.g., "I want (truck).").

3. Classification entails arranging items into a category according to some meaningful criterion.

Activity - Use separate pictures of vehicles, a few unrelated pictures, and a construction paper garage. After labeling the pictures, place one of them in the garage explaining, "A bus can take you places. It is a vehicle. Find another vehicle and put it in the garage." Subcategories such as grouping according to places vehicles travel are a further extension of this concept.

4. Use of the Negative - In addition to teaching a child "no," use of the negative involves choosing an item that does not belong to a given group, using "not" in a sentence ("It is not a car."), and recognizing absurdities.

Activity - Word game - "What's Wrong?" - Orally list a series of vehicles including one absurd item. Let the children signal when they hear the one that does not belong.

5. Motor Expression - Many children have taught themselves to communicate effectively through motor expression (gesturing, acting).

Non-verbal children are often able to demonstrate their inner language through this medium.

Activity - Play a creative dramatics game. Sketch a scene by narration and go on a special trip, "Take the keys, let me see how you get in the car. Fasten your seatbelt."

6. Response to Questions - Most of our children have significant difficulty responding appropriately to questions. As long range goals we would like them to be able to answer basic "wh" questions (who, what, when, where, why). At the most fundamental level we want the children to learn that certain phrases are a request for communication (question) and require a response on their part.

Activity - Use puppets to induce imitation and verbal interaction leading up to a question/answer format of interaction.

7. Language Concepts - These are more abstract attributes or ideas associated with common objects such as descriptive vocabulary: color, size, shape, tactile properties, parts, and composition; and related concepts such as: function, associations, and opposites.

Activity - Play a sorting game, placing all of the big vehicles on the big road, or all of the ones made out of plastic in a special box. Have the children verbalize why they grouped all of those vehicles together.

8. Grammatic and syntactic forms such as prepositions, plurals, pronouns, comparatives and verb tenses are taught directly and individually. Knowledge of these forms can be first taught through use of the child and his body and environment.

Activity - Set up a railroad station. Let the children engineer the train over hills and under bridges. Provide verbal input of the positions of the vehicles, periodically ask the child to verbalize the position of his vehicle.

9. Temporal Sequencing - This involves teaching children the complex skill of ordering events in time.

Activity - After a fieldtrip to the fire department, write a language experience story with the children. Draw related pictures which they can sequence according to first, next, last.

Each of these skills is taught individually and in careful, minute increments in the group lessons. Concurrently, the skills must be pulled together and practiced in context of the child's everyday language. There are numerous opportunities throughout the day in which to teach language. For example, when a child is riding a tricycle, unobstrusively help him to verbally express where he is going. We use these times to model correct language usage, to reinforce previously taught concepts, and to increase the probability of transference of knowledge into a child's everyday usage. You as a teacher can teach language specifically in a way to bring about extraordinary change in your children's lives.

VII. ASSESSMENT

How can a teacher cope with the everyday demands of the teaching role, current requirements for accountability, and then superimpose a program which requires detailed individualized assessment and planning? Anyone could easily become overwhelmed juggling so many factors. One effective way to balance this act is an individualized management plan. We have found that an educational management plan which includes individual and group learning profiles, goals, and daily progress is the most effective means for assessment and organization.

The educational management plans that we use include: past records of the children; long and short range goals derived from yearly testing; and daily lesson goals, materials, and checklists. The specific format for record keeping varies according to the personality and inclination of the teacher. Generally we use a checksheet format including:

1. an outline overview of each developmental area's goals,
2. specific behavioral objectives for each lesson (either for each child or for the group as a whole, if applicable),
3. a listing of the materials and type of presentation to be used in the lesson,
4. an area in which to record each child's response to the individual tasks in each lesson.

Using this means of recording we are able to keep abreast of each child's development, augmenting our often elusive memories. We can maintain an

objective appraisal of the accuracy of our task analysis program and the effectiveness of each presentation, learning where to move next with each child and with the group. Listing of materials and manner of presentation coupled with a record of the success of the lesson can provide a take-up point for future programming and curriculum development.

Historically, the records provide a reliable source of information from which to write meaningful and direct conference reports, to relate specific progress to outside agencies, and to pass on clues for future teachers. The procedure is time consuming and often cumbersome, but ultimately worth its time in added insight and effectiveness.

CONCLUSION

Adaptations of the program we have outlined will be affected by child population, staffing, physical plan or ongoing programs. However, incorporating ideas into any program should include learning theory, developmental sequence, task analysis, and assessment. Teaching young handicapped children is a dynamic, analytic process. It is a process which coordinates knowledge of the children's needs, abilities, and interests taking a child from where he is to a nigher level of learning. Effective teaching of handicapped children requires a great expenditure of teacher effort, energy, and interest. As we learn, our program changes. As we learn, so do the children, continually moving towards becoming more independent, self-confident, and capable individuals.

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